

important questions

1. How is CPS different from other strategy groupings?
2. What is meant by comprehension process versus comprehension product?
3. What role do questions play in CPS?
4. How do questions engage inquiry?
5. How are comprehension skills different from strategies, and why is it important for teachers to know the difference?
6. How are inquiry and problem solving integral to comprehension?
7. Why is it important for big ideas be the focus of comprehension?
8. What does the concept of "comprehension first" suggest for planning and teaching in the literacy curriculum and in other curricular areas?

Introduction

This chapter continues the investigation into the umbrella questions introduced in Chapter 1:

1. How and why should comprehension be given instructional priority—that is, be put first?
2. What is elemental to quality comprehension instruction?
3. How can comprehension instruction become inquiry-based, embedded in all instruction, and responsive to diverse students and texts?

Chapter 1 described the comprehension achievement problem and explained the impetus for a revolution in comprehension instruction. It previewed general instructional interventions and discussed ineffective strategies. For example, the strategies of merely mentioning thinking skills and of simply assigning reading followed by testing recall have not proven effective (Durkin, 1978–1979). Although an avalanche of research has suggested the kinds of changes that are needed in comprehension instruction, very few recommended practices have been implemented in daily instructional repertoires. Even very effective elementary teachers may not use comprehension practices considered most promising, despite repeated calls for different instruction (e.g., see NRP, 2000, Chapter 4). In particular, there is little comprehension *strategy* instruction and even less strategy instruction of the quality that results in students' independent unprompted problem solving of texts (Pressley, 2006).

Students' increased comprehension achievement is the goal. Putting comprehension first in the literacy program and in content area instruction would clearly be a step in the right direction. Making comprehension the priority requires developing teachers' knowledge and pedagogical expertise. One place to begin is with teachers doing a self-assessment of their knowledge about mental

explicit
teaching
needed

also
p 20-43

actions that successful comprehenders use. This chapter focuses on this knowledge base and, in particular, the roles that Comprehension Problem Solving, inquiry, and a big idea focus play in understanding verbal and non-verbal, print and non-print texts. Subsequent chapters address the question of *how* to teach students to use CPS independently and flexibly, using nine research-based best practices. Instruction of this kind would speak to the learner needs discussed in Chapter 1 and address comprehension difficulties that students commonly experience (refer back to Ready Resource 1.3 on p. 18).

Comprehension Problem Solving

Comprehension Problem Solving is a part of an inquiry-based approach to comprehension (see Ready Resource 2.1 below, and see Appendix B.4 for a copy-friendly version of this resource). It acknowledges that the ultimate goal of comprehension instruction is for learners to know how, when, where, and why to use problem-solving strategies *to understand*, whether they are reading for pleasure or for information. Another way of saying this is that comprehending content is the central problem all readers face when approaching any text, be it fiction, nonfiction, word-based, or wordless, and *problem-solving* strategies are necessary to achieve this comprehension goal.

Knowledge
declarative-what
procedural-how
conditional-when+why

Comprehension Problem Solving process.

BEFORE Reading, viewing, or listening to a text

Purpose-set. Create motivation, by focusing on the goal of comprehension.

- What's the problem? Why am I using this text?

Predict and connect. Overview the text to activate prior knowledge. Link the text to your own experiences, to other texts, and to what you know about the world.

- What is the text like, and how is the text organized?
- What do I already know about this problem or topic?
- What information or experiences do I predict this text will provide?

DURING Gathering data by taking and making meaning from the text

Determine important concepts. Use text clues as evidence.

- What does the author want me to think? Why?
- What do I think are key concepts or topics that might lead to big ideas?
- What facts or details (evidence) make me think these concepts or topics are key?

Infer conclusions. Use previous evidence to decide.

- What do I predict so far?

(continued)

READY RESOURCE
2.1

Comprehension Problem Solving process, continued.

READY
RESOURCE

2.1

Image. Use your imagination to think about the text.

- What visual images can I make in my head?
- What feelings, smells, tastes, and sounds do I connect to the text?

Question and wonder. Speculate by questioning.

- Ask the Five W + H questions (who, what, when, where, why, and how).
- What predictions about important ideas are confirmed? Which ones should be rejected?
- What new predictions can I make about what is most important in the text?
- What new connections can I make (text-self, text-text, text-world)?

Monitor. Check whether you are making sense.

- Am I understanding? If not . . .
- Which Comprehension or Word Fix-Ups should I use? (See Ready Resources 5.5 and 8.11).

Analyze/critique. Zoom in-zoom out. Use text features and structures.

- If the text is narrative: What do I know about the characters? What are the problems? Where and when is the story happening? How are problems being resolved? What themes are emerging?
- If the text is expository: How is it organized (e.g., sequential, cause/effect, comparison)?
- If the text is non-verbal: What stands out? How does the text feel? Why?
- Overall: What are the important details and features? How are they related to the big ideas I'm finding and creating?

Incubate. Take time out.

- How can I take a break so I can review and reconsider from a fresh perspective?

Synthesize. Pull big ideas together.

- What are the most important concepts, themes or generalizations, and conclusions?
- What big idea statements are most important?

AFTER Reading, viewing, or listening to a text

Organize and shape. Transform the big ideas.

- How can I best show my understanding of the most important big ideas?

Reflect and revise. Think about the comprehension product.

- What works or makes sense? What doesn't work?
- How can I better show my comprehension?

Publish. Make your comprehension public.

- How can I share my comprehension "product"? With whom? When? Where?

Sources: Baker & Brown, 1984; Block & Pressley, 2007; Cordon & Day, 1996; National Reading Panel, 2000; Pearson & Dole, 1987; Pearson & Fielding, 1991; Pressley & Afflerbach, 1995; Pressley et al., 1989; RAND, 2002)

At this point, it will be useful to see CPS in action in a classroom context. The following snapshot features a teacher who has been teaching CPS since September. It is now the middle of October. Notice how Emma Corbett uses the prompts "my turn" and "your turn" to engage students in problem solving that integrates multiple strategies. Boldface words indicate important concepts and general teaching strategies, including ones particular to teaching CPS.

model - Think aloud
T: S: > format a board



classroom snapshot

COMPREHENSION PROBLEM SOLVING

Oh the thinks you can think up if only you try. —DR. SEUSS

Emma's third graders are partnered on a large rug. On the wall to Emma's left is a chart of the CPS process. (See Ready Resource 2.1.)

"Echo me!" Emma whispers. "Think left."

"Think left," the students echo softly.

"Think right," Emma says in a high pitch.

"Think right," the class squeaks.

"Oh the thinks you can think up if only you try!" she says, emphasizing *thinks* and stretching out *only you try*.

The class echoes. Emma repeats the line, with even more expression, twice more, pausing for students to imitate. She then stops. The classroom is quiet. She slowly slides a chart from behind her containing the poem they've been chanting, and she props it on the chalk tray.

Lesson Introduction

"Who do you think wrote this?" she smiles.

"You?" a boy asks.

"Thanks, Andrew, but no. It is a writer and artist whose name begins with *doctor*."

Immediately hands go up, and Emma calls on a girl.

"Dr. Seuss!" says Tamika.

"Yes! How did you know?"

"Well, the *doctor* clue, but it sounds like him, especially saying 'thinks' instead of 'things.'"

"Why do you say that, Tamika?" Emma asks.

"Because he writes different ideas and uses strange words. But I like it."

"Me too, especially *Green Eggs and Ham*," says a boy.

Emma smiles again. "Dr. Seuss is a writer and artist who has published lots of books. **What do you think he is saying in this poem? Take a minute to think.**"

After about ten seconds she asks for thumbs-up and calls on several students.

"To think different ways."

"He could say think up and think down!" suggests a boy.

"To just keep thinking and new thinks will happen *if only you try*!" a girl says, imitating Emma's expression.

"Those are all important ideas," Emma says. "Look at our CPS chart. **How does this poem tell us about comprehension?**" Emma waits. "This is a think question, so it is good to take some time." The class stares at the chart.

Finally a girl volunteers, "Comprehension starts with a problem and under *DURING* you have to keep trying to think of . . . of . . . thinks . . . yes, that's it, thinks to say what the book or story is really about." She finishes in a rush.

"Wow, that was a mouthful, Cheree! **What are some thinks from the rest of you?**"

"I agree with Cheree. Good readers make meaning in their heads—new thinks, that is the reading problem," explains a boy.



Lesson Development

"You are so right, Jonah. We've talked a lot about good readers and the *Before/During/After* thinks they use to solve the meaning-making problem. Today our focus is going to be on these strategies." She points under *During* to **INFER CONCLUSIONS** and **DETERMINE IMPORTANT IDEAS**. The students automatically choral read each phrase.

"I'm going to start with *infer*," Emma explains. "*Infer* means to use clues to make sense. The answer is not right in the words. **Let me show you.** Watch and listen to me think as I pull three items from my **Mystery Bag**. Then it will be **your turn**."

She takes out a table knife. "I'm inferring from the knife that something will be cut," she says. Next she pulls out a piece of bread. "I'm now inferring the knife is for cutting the bread," she says. She then pulls out the last item, a jar of peanut butter. "Oh, now I'm inferring the knife is to spread the peanut butter. I don't think it is for cutting, because I only have one piece of bread, so I can just fold it over."

"Like on that grandpa commercial!" a boy says.

"Yes, Ash, just like," Emma smiles. "Now, it's **your turn** to do the thinks," she says. "After each item I'll pause for thirty seconds for you to partner talk."

This time Emma pulls out a check, a bill, and finally a stamped envelope. After each item she stops for the pairs to talk. Then she asks for volunteers to tell about their thinks.

One pair explains, "At first we said it was about going shopping, because my mom always takes checks. But when you held up the phone bill we said you were going to use the check to pay the bill. Last was the stamped envelope. It was a clue that you were going to mail the bill."

"I noticed you connected the items to change your inference," says Emma. "What did the rest of you notice?"

"The objects gave us **evidence to think**."

"I felt sort of sad about the bill, because it was so much!" explains a girl.

"**You inferred a feeling**, not just a think," says Emma.

"It was good you had a check to pay!" explains the girl.

Emma nods her head and asks, "**What else helped you to infer?**"

"I just thought how it all fit. **The problem was to make sense.** Sending a check to pay the bill made sense," says a boy.

"Well said. But, **how did you make sense when the answer was sort of invisible?**" Emma presses.

"Because of the clues," says a girl. "It's like if you smelled smoke you would conclude there was a fire."

"I think you have it. Now, it works the same with reading as it does with the objects. You put the clues together to *infer* conclusions. *Determine importance* is the other strategy. Not every clue or every word is important."

"Like to, a, the!" says a girl as she points to a High Frequency Word Wall.

"Right, the high frequency words are needed, but they don't usually give us the best clues to meaning."

"Let's try inferring conclusions *and* determining important ideas with words. I'll use just the first sentence from a fable. The book is *Fables*, written and illustrated by Arnold Lobel," she says as she opens to the title page and points to his name.

"We've read and talked about Aesop's fables before, but these are newer fables. I'm not going to show you the picture. Just think about the sentence I read, and I'll demonstrate how I infer clues. Listen to my thinking."

Emma reads, "The Camel had her heart set on becoming a ballet dancer." She then does a **think aloud** to model:

"I'm **inferring** the Camel really wants to dance **because of the clue words** 'heart set on.'"

When she finishes speaking children immediately put thumbs up, but she says, "Talk with your partner about conclusions you can infer. I'll set the timer." After thirty seconds she asks for volunteers.

"We infer the Camel is willing to work hard, because she has her heart set," a girl explains. Emma calls on several pairs, who all focus on the same words.

"Let me **think aloud again** using different clues. I infer that the Camel has seen or heard about ballet dancers before because of the word 'becoming.' I infer she had some kind of experience with ballet to think of this goal."

"I infer she is going to have trouble, because she is a camel!" a boy immediately says.

"Why do you think that, John?"

"Because camels have four legs and I infer it would be hard to get up on your toes and jump with so many legs and all that hump weight." The class laughs.

"Hey, this is like prediction!" another boy says.

"Good connecting and noticing detail," she responds. "The thinks in CPS do overlap!" Emma then continues.

"Your **inferring is based on evidence**, so it is right on," Emma says. "Let's practice the second strategy. Remember, good readers use several strategies at once, but we're trying these two right now. **My turn**. I think the words camel, heart set, and ballet dancer are **important because** they helped me create a picture in my head. Take thirty seconds to talk with your partner about your brain pictures." Emma sets the timer, and when it buzzes she calls on volunteers.

"We both had an image of a brownish camel with a beating red heart and wearing pink ballet slippers."

"Our CPS chart says **visualize**, not image," a boy points out. The children all look at *Visualize* on the chart.

"Good point, Sam. *Visualize* means picture in your head. It is one way to use your imagination or make images. **How does visualizing help** you decide what is important?"

"Well, we've talked and talked about that you can't do any of CPS without visualizing," a girl responds.

"I can't think without visualizing!" says another girl.

"I'm visualizing my lunch," comments a boy and the class laughs. So does Emma.

Emma then refocuses the group and reads the rest of "The Camel Dances," **stopping at three more points** to do a think aloud and have students **partner talk** about inferring from clues and determining which ideas are most important. The students continue to focus on images they visualize but add character actions and things they say to judge what is important. They also **notice the similarities between prediction and inference**.

Emma asks for ideas to **create a chart** using the three categories of Important Ideas, Why?, and Inferences. Student examples appear in Ready Resource 2.2.

Lesson Conclusion

Right before lunch Emma asks her students to think about their inferences and answer these questions: What was the fable "The Camel Dances" *really* about? **What is the big idea the author wants to tell us?**

Comprehension is thinking, which is invisible. Making comprehension visible is key to assessment. After lunch, Emma asked her students to write for five minutes, answering the question, "What was the biggest idea for you in the fable?" The students then met in groups of three to five to discuss their ideas. Each group chose one big idea and planned a drama called a *tableau* (a frozen picture using their bodies) to show their big idea.

Making comprehension visible. The next day each group performed its tableau for the class, and the audience gave feedback. Most of the groups created tableaux where each member showed something he or she loved to do, such as skateboard, dance, draw, or swim. In a variation, Emma invited volunteers to perform again, setting the tableau in motion. What emerged was moving pantomimes of the students' interests, with faces and bodies that radiated concentration and joy. Keep Emma's lesson in mind as you read the rest of the chapter. In particular, think about:

1. What seemed most important in the lesson? Why?
2. What teaching strategies seemed most important to developing students' comprehension?
3. What do Emma's students think comprehension is? Why?

Inference chart for "The Camel Dances."

READY
RESOURCE
2.2

IMPORTANT IDEAS

- feet blistered
- no applause
- dance for myself

WHY?

- shows hard work
- feels sad and mean
- shows her heart is set

INFERENCE?

- she won't give up
- tests the camel's heart
- she never had any more audiences, but it didn't matter

Defining Problem Solving and Inquiry

CPS is all about problem solving and inquiry. Both of these concepts are labels used universally to describe thinking processes employed by intelligent people. The scientific community continues to grapple with differences between the two, as we do in literacy (Fetters, Beller & Hickman, 2003; National Research Council, 2000). What is indisputable is that in all disciplinary fields inquiry and problem solving are prized. National professional associations in science (National Science Teachers Association), social studies (National Council for the Social Studies), and math (National Council of Teachers of Mathematics) have called for all instruction to be "inquiry based." Such instruction focuses on teaching students to be skilled problem solvers.

Inquiry and problem solving both involve questioning in a search for information and pursuit of meaning (Ebenezer & Connor, 1998). Inquiry, however, is generally acknowledged to be an elevated form of problem solving, during which the learner is more self-directed (Chiapetta & Koballa, 2002; Fetters, Beller, & Hickman, 2003). Problem solving is taken to the inquiry level when a person increases his or her intensity of thinking and degree of commitment. In other words, inquiry is ardent problem solving with deep personal investment. It is self-motivating, since it springs from interest, curiosity, and wonderment (Sunal & Sunal, 2003).

Inquiry is engaged when an individual chooses to pursue solutions. The person adopts a questioning stance and seeks a range of possible meanings or solutions. Good readers use this stance in approaching texts, so it makes sense to place inquiry at the center of any instructional design for comprehension.

An inquiry approach focuses on teaching students to view texts as sources to solve their problems. For this approach to succeed, an important condition must be met. If students are to achieve the inquiry state of mind, they must learn to consider texts, including the Internet and multimedia, as problem-solving tasks from the beginning. In addition, they have to put the goal of comprehension (meaning making) first. To reach that goal, students need to know how to employ a repertoire of problem-solving strategies, and they must believe this is the route to making sense. There is no shortcut around thinking for yourself when the goal is successful comprehension.

The Teacher Tap Web site includes links to articles that make distinctions among project-, problem-, and inquiry-based learning.

personal
+
self-directed
↑
inquiry
problem solving

texts =
problem solving
tasks.

Project-, Problem-, and Inquiry-Based Learning

<http://eduscapes.com/tap/topic43.htm>

WWW

ONLINE RESOURCE

Why Teach an Inquiry-Based Problem-Solving Approach to Comprehension?

Recently I met a first grader in a rural South Carolina school who was wearing a rope around his waist.

"Great belt," I said.

He smiled. "It ain't a belt, ma'am. My pants were comin' down. This here is my sister's jump rope."


I was told later that the boy was a "title" child and was having trouble learning to read. It was clear to me he wasn't having trouble problem solving.

The compulsion to problem solve is inborn. Our success as a species is predicated on the human urge to solve problems, often in novel ways. Children don't go a day without problem solving, even those who are growing up in the worst possible circumstances. So-called "disadvantaged" children have to be resourceful. Kids who face problems with food, clothing, shelter, and safety have developed strategies for survival that teachers can tap. Inquiry-based comprehension activities challenge students to develop their innate problem-solving tools further and apply them to the task of making sense from diverse texts.

Although problem solving has not led literacy headlines, it has received high-level endorsements. For example, the National Reading Panel used the phrase "*problem solving*" to summarize how readers derive meaning (2000, p. 14). National language arts standards and position statements also reference problem solving (IRA/NCTE, 1996; NCTE, 2004). These documents focus on both critical reading across genres and creating diverse products. Critical thinking and the invention of novel products are integral to problem solving.

CCSS-
apply to new
problems

Research Supporting CPS

 PS coordinates thinking for the purpose of making sense of texts during reading, viewing, and listening. Research supports teaching a repertoire of thinking strategies that parallels how mature readers think. Capable readers use an integrated toolkit of problem-solving strategies; they do not use one strategy at a time. They fluidly coordinate multiple strategies to make sense of text (Pressley, 2006; Reutzel, 2007).

Plenty of folks achieve high levels of comprehension, so it is reasonable to look to them for instructional insight. Researchers have done so for decades, and the resulting body of work is called the "good reader research." Comprehension Problem Solving draws on that research.

Interviews and observations confirm that good readers are mentally active. They use a set of strategies that increases their engagement with the text (Block & Pressley, 2007). Making sense is paramount, even though good readers are not always conscious of that expectation. Good readers do quickly become aware when any part of a text does not make sense, and they proceed to take action to create sense. They read aloud, reread, read ahead, and so forth. They realize when a text isn't making sense because they continually ask themselves questions (often without knowing it), such as "What does this mean? Where is this going? How does this relate?" They do not expect or want pat answers. They want meaning.

All of these behaviors create the inquiry orientation to comprehension that teachers desire for all students. Why do we desire it? Because this orientation is inherently motivating, and it leads students to view themselves as competent and unique. The ultimate result is satisfying and successful learning and living.

CPS is based on thirty years of research that have yielded more than two dozen comprehension processes (e.g., see Baker & Brown, 1984; Block & Pressley, 2002; Block & Pressley, 2007; Dole et al., 1991; Pearson & Fielding, 1991; Pearson et al., 1992; Pressley, 2000; Pressley, 2004; Pressley & Afflerbach, 1995). CPS draws on research undertaken to create comprehension strategy groupings such as those listed in Ready Resource 2.3. Early on, the focus on grouping strategies resulted in several flexible approaches. Reciprocal Teaching (Palin- scar & Brown, 1984), which was one of the first models, targets four thinking strategies: Predict, Question, Clarify, and Summarize. A more recent package is transactional strategies instruction (TSI) (Pressley et al., 1992), which the Nation- al Reading Panel cited as exemplary (2000). Newer programs, such as Guthrie's (2004) Concept Oriented Reading Instruction (CORI), address the important role motivation plays in comprehension and incorporate strategies to process content (e.g., CORI uses science concepts/big ideas).

- add some details to chart below?
→ find sources.
→ pick 3 to compare

Comprehension strategy groupings.

The following models are examples of efforts to organize comprehension strategies. These are just some examples of the many models that have been developed over the past thirty years to teach students how to make meaning from text, with the goal of independent strategy use by students.

- 1

Reciprocal Teaching: Predict, Question, Clarify, Summarize (Palin- scar & Brown, 1984)
- 2

KWL: Know, Want to Know, Learned (Ogle, 1986)
- 3

QAR: Question Answer Relationship (Raphael, Au, & Highfield, 2006)
- 4

Imagery Training: Making Mental Art (e.g., see www.vue.org) (Housen & Yenawine, 2000)
- 5

TSI/SAIL: Transactional Strategy In- struction (Pressley et al., 1992)
- 6

CORI: Concept Oriented Reading In- struction (Guthrie et al., 1998)
- 7

QtA: Questioning the Author (Beck & McKeown, 2006)
- 8

Direct Explanation (Duffy et al., 1987)
- 9

Informed Strategy Training (Paris, Cross & Lipson, 1984)
- 10

Cognitive Apprenticeships (Collins, Brown & Newman, 1989)
- 11

CSR: Collaborative Strategic Reading (Klinger & Vaughn, 1999)
- 12

Reason to Read (Block, Mangieri, & Fowkes, 1997)
- 13

REQUEST (Manzo, 1969)
- 14

Thinking Themes (Cunningham & Smith, 2008)
- 15

Web Quests: Problem solving with hypertext (<http://webquest.org>)
- 16

CPM: Comprehension Process Motions (Block, Paris, & Whiteley, 2008)
- 17

START: Strategy Teaching + Active Response Tasks (Scharlach, 2008)
- 18

CPS: Comprehension Problem Solving (Cornett, 2010)

READY RESOURCE
2.3

The CPS Process

The promise of the "comprehension first" proposal described in this book can be realized only if *qualitative* changes are made in the teaching of comprehension. It is not enough just to increase time spent on traditional "comprehension" activities, such as answering questions at the end of a text.

Qualitative instructional change should be built on the foundation laid by decades of research that has increasingly revealed details of how comprehension happens. Comprehension is a multifaceted process that relies on many thinking strategies, which have sometimes been referred to as problem solving. The premise put forth in this book is that comprehension is *always* about problem solving.

The Comprehension Problem Solving process stands on the shoulders of its thinking strategy ancestors. It goes further, however, to stress the importance of teaching students *how* to use the full range of problem-solving strategies purposefully and intentionally. The purpose of comprehension is presented as unequivocal: to make sense of the many forms of texts found in today's world. The essence of CPS is its inquiry orientation. Inquiry is directed by questions individuals generate in their search for meaning, i.e., comprehension. The goal is a comprehension product made of important big ideas found in and created from texts.

The CPS process organizes thinking strategies into *before*, *during*, and *after* (BDA) stages, but successful comprehenders use the process flexibly. Good readers frequently skip around and move back and forth in their use of thinking strategies. Capable comprehenders return to and revise their purposes and predictions as they process more text, in a "review and add to" manner. The amount of time that a reader spends using any single problem-solving strategy depends on the nature of the reader, the specific task at hand, the peculiarities of the text, and the context or place of text use, as well as available teaching support. In this way the Five Factors introduced in Chapter 1 and shown in Ready Resource 1.2 are revisited.

Throughout the BDA stages, readers construct comprehension by continually questioning, both intentionally and intuitively. Of course, mature readers, listeners, and viewers are not often conscious that they are using problem-solving strategies. A mark of comprehension maturity is the automatic, unconscious use of strategies, analogous to an experienced driver's coordination of the myriad skills involved in driving a car to a destination. Hence, one of the challenges for teachers is a personal one: teachers must become aware of their own thinking. This means slowing down their own personal comprehension problem solving and reflecting on how it happens, so that they can explain and model the process for students. Without such clarity in instruction, some students will not progress in their comprehension development.

Following is a more detailed explanation of the CPS process. Questions that propel the CPS process forward are included with each strategy.

BEFORE Reading, Viewing, or Listening to a Text

The stage is set for comprehension when learners start thinking prior to actual use of a text. Students need to understand why and how the text addresses their needs.

Purpose-set: Create motivation by focusing on the goal of comprehension

link to lesson plan template

- What's the problem?
- Why am I using this text?

Purpose is integral to motivation. Human beings are wired to want to know why, and they seek texts that connect to their needs. Successful comprehension is more likely when text use begins with the reader's general purpose of expecting to make sense. The reader then couples this general purpose with specific reasons for using the text at hand. The question "Why am I using this text?" sets problem solving in motion.

Louise Rosenblatt (1978) theorized that readers have different purposes for reading. She divided these purposes into two categories: (1) efferent, involving seeking for information or facts, which may produce a more narrow interpretation of a text, and (2) aesthetic, where the emphasis is on "experiencing" the text, with more attention to the emotions and feelings the text provokes. When I want to read a good story in order to escape and relax, this is a different problem from learning something, but it is still a problem. I will make sense differently, because my purpose is different. For example, I may read faster to get the gist of the plot. Of course, any text may be read for a combination of purposes: I might read a poem for information or a recipe for aesthetic understanding (e.g., appreciation of the creative use of ingredients or even the sound of words like "arugula").

read both kinds
of text
both ways.

Let's say I want to understand illegal immigration better. My problem can be stated as "How can I make sense of or learn more about illegal immigration, using particular texts?" My problem or purpose will determine not just why I read, but how: I'll be looking for credible facts, so I will skim, scan, and slow down to study certain sections. I might read a narrative like *Esperanza Rising* (a fictionalized biography of the author's Mexican grandmother) along with consulting a government Web site. I can experience both texts aesthetically and effere

determine
why and how
I read.

ntly, proportionally to my purposes and the nature of each text. In the case of the narrative, I can't help but enjoy the author's artful chapter titles, which use Spanish names for fruits and vegetables. At the same time, I am also aware that I am learning many facts about immigrant experiences that help me better understand why people take risks and break United States laws.

Readers who begin by focusing on a problem understand that they must both find and make meaning by thinking about text clues. Problem solving requires mental action, not passive absorption of facts or pronunciation of words. A problem focus triggers motivation to inquire and activates a "can do, will do, want to do" attitude. The more the text relates to the reader's problems and interests, the more motivated the reader will be.

Predict and connect: Overview the text to activate prior knowledge

- What is the text like, and how is the text organized?
- What do I already know about this problem or topic?
- What information or experiences do I predict this text will provide?

An overview of a text activates areas of the brain, called *schemata*, that store prior knowledge. The overview (or preview/survey) generates questions related to what the text will be about and how it is organized. This helps the reader make connections to personal experiences (text to self). As a result, the reader can make predictions about how much the text may contribute to solving the initial problem, be it acquiring information, gaining pleasure, or both. The reader can also make connections between the present text and other texts he or she has read, heard, or seen (text to text) and then compare and contrast these texts, judging the attributes of each. The reader can make additional links between the current text and what he or she knows about the world in general (text to world). In the predict and connect step, the reader links the text to his or her own experiences (text to self), to other texts (text to text), and to what he or she knows about the world (text to the world) (Fountas & Pinnell, 2001).

Capable comprehenders begin to brainstorm and hypothesize during and after a text overview. For example, a reader of this book might predict that I am going to present research to support specific comprehension instructional practices. The reader hypothesizes by thinking, "I think this is going to be about . . . and I wonder if . . ." This kind of engagement with text lays the foundation for successful comprehension.

DURING Reading, Viewing, or Listening to a Text: Data Gathering by Taking and Making Meaning

Once the reader, listener, or viewer is engaged with a text, he or she may use the following thinking strategies to engage in further problem solving. Each strategy is both discrete (useful on its own) and connected to the other thinking strategies.

Determine important concepts: Use text clues as evidence

- What does the author want me to think? Why?
- What do I think are key concepts or topics that might lead to big ideas?
- What facts or details (evidence) make me think these concepts or topics are key?

Mature comprehenders realize authors write with their own purposes in mind, so they think about the author's motives and purposes as they consider topics or concepts that may lead to big ideas. Even a novel that is read for pleasure requires the reader to focus on important plot events, character traits, and where the story is going (i.e., themes) in order to make sense of it. Emma Corbett scaffolded thinking about important ideas by directing students to notice strong images in the fable.

Infer conclusions: Use previous evidence to decide

- What do I predict so far?

To infer is to draw conclusions, using facts and details as evidence for decisions. Inferring and predicting are related. A reader, listener, or viewer re-

peatedly infers and predicts as she or he proceeds through a text. Readers use recursive (back and forth) and spiraling (building up from evidence) thinking. For example, I might learn statistics about illegal immigration and use those facts to start generating inferences about potential effects on the economy. Readers also continually discard irrelevant details, depending on their purposes.

Reading rate changes depending on the reader's purpose. For example, readers read faster when they skim or use selective scanning to locate details (e.g., sections of an expository text) and read more slowly when their intention is to study or savor.

Image: Use your imagination to think about the text

- What visual images can I make in my head?
- What feelings, smells, tastes, and sounds do I connect to the text?

"Image" is the root of the word "imagination." Without imagination, we cannot think about the past or envision the future. People image as they read, view, or listen to any text, and images may arise from any of our senses. There is particularly strong evidence for the influence of visual images on comprehension (Gambrell & Koskinen, 2002; RAND, 2002; Sadoski & Paivio, 2001).

An argument can be made that visualization is the basis for most thinking. Humans have thirty times more visual nerve fibers than auditory, and 30 percent of the brain's cortex is devoted to visual processing (compared to 3 percent for hearing) (Lindstrom, 1999). Written communication had its origins in visual images called pictographs. This history is apparent in Egyptian hieroglyphics and Chinese characters in which certain symbols retain a likeness to the thing represented. Our English alphabet, a much more recent invention, uses "abstract" symbols that are phonetic rather than image-based.

Einstein claimed he did all his thinking by visualizing, and most capable readers are able to generate visual images from texts almost effortlessly, which accounts for some of the enjoyment in reading. Of course, visual images may result from processing any text form. For example, music and songs frequently stimulate visual memories and can stir the imagination to produce emotions and other images, as well.

Question and wonder: Speculate by questioning

- Ask the Five W + H questions (who, what, when, where, why, and how)
- What predictions about important ideas are confirmed? Which ones should be rejected?
- What new predictions can I make about what is most important in the text?
- What new connections can I make (text-to-self, text-to-text, text-to-world)?

Questioning occurs throughout the problem-solving process, but here it is addressed separately, because of its importance. Without questioning there is no inquiry.

The basic Five W + H question stems enable readers to group and re-group ideas continually in order to speculate on meaning, even as it is created. Some predictions about what is important may be confirmed by text evidence, while other predictions must be rejected. New predictions result from the constant questioning that the search for meaning provokes. Of course, all of this questioning should connect back to the reader's original purposes for using the text.

Monitor: Check whether you are making sense

- Am I understanding? If not . . .
- Which Comprehension or Word Fix-Ups should I use?

People are "*homo sapiens sapiens*." That means we are a species capable of thinking about our own thinking. Over thirty years ago Flavell coined the term "metacognition" to label this process (1977). Successful comprehension depends on the expectation that texts will make sense, and successful comprehenders think continually about the extent to which sense is being made. For example, mature readers are aware when a word, sentence, paragraph, or section isn't making sense, and they take action when this occurs. Ready Resources 5.5 (Chapter 5) and 8.11 (Chapter 8) show common actions readers take to fix problems at the word level and deal with general comprehension issues.

Analyze/critique: Zoom in–zoom out using text features and structures

- If the text is narrative: What do I know about the characters? What are the problems? Where and when is the story happening? How are problems being resolved? What themes are emerging?
- If the text is expository: How is it organized (e.g., sequential, cause/effect, comparison)?
- If the text is non-verbal or non-print: What stands out? How does the text feel? Why?
- Overall: What are the important details and features? How are they related to the big ideas I'm finding and creating?

Comprehension evolves as the reader's thinking moves back and forth between the big picture and the details. The reader zooms in on text features and structures (e.g., story elements and paragraph structures) and zooms back out to see how the details relate to developing big ideas. Topics, concepts, facts, themes, and details begin to organize into big ideas that will eventually take the form of theme statements and generalizations. These big ideas are more than main ideas in paragraphs, because they take the full text into account. The reader arrives at these big ideas through a process of deciding what is important to include and discarding the rest. Through continually judging what to keep and what to throw away (depending on the reader's purposes for using the text), the reader constructs meaning. This "critical thinking" is essential to meaning making (Gambrell, Malloy, & Mazzoni, 2007).

Incubate: Take time out

- *How can I take a break so I can review and reconsider from a fresh perspective?*

An incubation period is a pause that allows the reader's mind time to process significant details—to stir them around, group and regroup them in creative ways. This process is essential to creating new big ideas. Often reported examples of the power of incubation have to do with going to sleep and waking up with a solution to a problem. Incubation time may range from a few minutes to a few days, and it may take various forms. Artists and writers play or listen to music, exercise, and engage in other activities to promote incubation. They know incubation increases connections among prior knowledge, other texts, and world knowledge to yield a fresh perspective and the possibility of an "ah-ha" (creative insight) experience (Cornett, 2011; Duke, 2001).

Synthesize: Pull big ideas together

- *What are the most important concepts, themes or generalizations, and conclusions?*
- *What big idea statements are most important?*

As a person nears the end of reading, viewing, or listening to a text, its parts and pieces should start coming together to create "sense." The reader synthesizes in order to pull the ideas together to address the original purpose for using the text. Creative combinations of significant details can result in "insight"—a highly rewarding new view of how small ideas fit together to make big ideas. For example, in hopes of gaining insight in my pursuit of understanding about illegal immigration, toward the end of my reading I would synthesize the most important big ideas I had found or created.

RESPONSE
AFTER Reading, Viewing, or Listening to a Text

At this stage, learners are taking the information and experience of the text further by responding in various ways. Some of the activities of this stage may result in "publication" of original ideas.

Organize and shape: Transform the big ideas

- *How can I best show my understanding of the most important big ideas?*

The comprehension product is revealed when the reader gives shape to big ideas that have been extracted and constructed. For example, the reader might create a text summary, which is more than a retelling. The summary need not take the conventional form common in schools. I might create a summary that explains my more informed stance on an issue like illegal immigration and present my point of view to the local Rotary Club. Alternatively, I might hone in on the texts themselves. I may have come to conclusions related to my general satisfaction or dissatisfaction with the texts I used, leading me to recommend or not recommend them. A recommendation reflects the organization and shaping of my conclusions.

Note that it is common for the shaping of big ideas to result in the creation of new texts. If I decide to discuss illegal immigration with a group of friends, I will shape my ideas differently than if I plan to speak at the local Rotary Club (for which I might create a more formal PowerPoint presentation). I might choose to write a song, create a painting, or design a model that shapes and expresses my personally constructed insights. All of these forms are texts.

Reflect and revise: Think about the comprehension product

- What works or makes sense? What doesn't work?
- How can I better show my comprehension?

Once big ideas have taken shape to solve the initial problem, it is time to step back and evaluate the comprehension product. Revision involves making both big changes (e.g., changing the point of view in a written piece or adding graphics or music for a multimedia product) and small changes (e.g., correcting spelling). Reflection and revision may result in a different concrete product, or they may lead to invisible changes, such as the reader's reevaluation of conclusions about what the most important big ideas really are.

Publish: Make your comprehension public

- How can I share my comprehension "product"? With whom? When? Where?

To publish means to "make public." No one immediately makes their comprehension of every text public, but all texts that are used purposefully will become part of who we are and what we know, believe, and do. Of course in school, teachers often require visible comprehension products when learners undertake a reading, listening, or viewing task. Unfortunately, school products are too often unlike the products of comprehension created in real life. Outside of school, comprehension is made visible in discussions, blogs, Internet postings, poems, songs, paintings, dances, playwriting, and other communication vehicles. In life beyond school, multiple-choice tests are not the most common way folks demonstrate and share personal understanding.

Special Features of the CPS Process



he prominent features of the Comprehension Problem Solving process are summarized below. These features distinguish it from other groupings, supporting its use as the centerpiece of comprehension instruction.

FOCUSES ON PROBLEM SOLVING

The CPS process addresses the need for learners to have a full toolkit of problem-solving strategies. No one tries to build a house with only a hammer, wrench, and saw. Drills, screwdrivers, and levels are necessary. For too long, many teach-

ers have tried to build the house of comprehension with an inadequate toolkit. The before, during, and after strategies in CPS provide a full set of problem-solving tools that can be used with a variety of texts, including non-verbal, non-print, and multimedia texts such as paintings, songs, films, and Internet sites. You will see that Ready Resource 3.1 (Chapter 3) gives an example of using the CPS process to make sense of a Cheerios box!

CPS pushes problem solving to the big idea level, which entails making sense of full texts, not just paragraphs or sections; however, it acknowledges that problem solving must also occur at the word and sentence levels. For example, during the monitoring step of CPS, good readers omit words, skip around, and reread words and sentences in their efforts to make sense. Readers also problem-solve paragraphs and then integrate them into whole texts (Block & Pressley, 2007).

ENCOURAGES INQUIRY

An important premise of this book is that literacy educators should take problem solving to the inquiry level. How? One effective way is by asking important questions, especially ones that begin with "why," "how," and "what if." Look back at the snapshot of Emma teaching the CPS process to see how she encourages students with open questions that both model good questioning and invite students to wonder and become more interested. The objective, however, is for students to initiate their own questions, which is a chief goal in the comprehension first approach.

Snapshot questions this way

Another teaching strategy that promotes an inquiry stance is to offer choices to students, such as which texts to use and where and how they can demonstrate comprehension in alternative ways. Emma does this with a form of drama, called tableau, that results in an arts-based text that can be "read" in its own right. Later chapters discuss further the use of choices and response options to increase comprehension.

IS USED IN CONTEXT

The strategies in the CPS process were selected because they occur frequently in many strategy groupings (see Ready Resource 2.3) and because they are important to solving the sense-making problem. CPS organizes thinking in a problem-solving format that parallels life outside of school. In daily life, we just don't go around predicting or summarizing in isolation and without a purpose. We must think to solve any problem, whether it is figuring out what to wear, what to cook, or what career path to choose. Problems come in all sizes and cannot be solved with "an unintegrated set of encapsulated strategies" (Reutzel, Smith, & Fawson, 2005).

Remember that Emma's students seemed to be familiar with the *whole* CPS process, even though, in this lesson, she focused on inferring and determining importance. Students need to see the entire CPS process from the outset so they have the big picture of comprehension processes. Emma made this process clear by posting a full chart. Over time, she then selected

strategies to teach explicitly, and she integrated new strategies with familiar strategies in a review and add-to manner. Single strategies are important, but comprehension depends on choosing and coordinating multiple strategies when they are needed to make sense. For example, I don't need to zoom in and analyze particular details in a text unless I perceive a need to do so. If I do zoom in on details, it is often for the purpose of connecting discrete ideas to overall emerging big ideas. These "pieces" become evidence for conclusions I am drawing about what is important. I may also zoom in because I don't know a word in the text and need to use word-solving strategies to make sense. (Ready Resource 8.11 in Chapter 8 lists Word Fix-Ups.) Then again, I might analyze specific words or phrases simply because I enjoy their look, sound, or meaning, that is, for aesthetic purposes.

EMPHASIZES STRATEGIES VERSUS SKILLS

The word *skill* tends to evoke images of drill and practice. Practice is important, but drilling skills outside of meaningful problem-solving contexts deflates motivation, because it lacks authentic purpose. Motivation is the engine for any learning and for comprehension in particular. Students' motivation depends on a sense that schoolwork has worth beyond getting a grade or pleasing a teacher.

Strategies are bundles of skills used purposefully and flexibly to solve problems. Think of the skill of hammering a nail. That skill is really a skill-set (a set of actions) that becomes a strategy when it is used to solve problems ranging from hanging a picture to building a house. The use of comprehension strategies depends on the ability to use skills such as sequencing, comparing/contrasting, determining causes and effects, skimming, and so forth. However, having students practice these skills without connecting them to their use in problem-solving texts stalls motivation and will not result in deep comprehension.

Teachers have spent far too long teaching skills using isolated drills and worksheets. Even if skills are practiced with complete texts, they do not automatically add up to comprehension. For example, I can put all the events in the story of the "Three Little Pigs" in order, but that will not mean I have made sense of the big ideas. I might also be skilled at picking main ideas out of paragraphs, but main ideas are not the same as big ideas. "The Three Little Pigs" is not about pigs and wolves. One of the big ideas is that a house can easily fall if it is built with weak materials. Comprehension will also continue to be weak if we build it by dwelling on skills. Comprehension depends on the tactical use of problem-solving strategies to make sense of full texts. CPS teaches that.

PARALLELS PROCESSES IN OTHER DISCIPLINES

The CPS process involves orchestrating mental processes that accomplished thinkers routinely use across many contexts and disciplines. For example, it is parallel to the writing composition process (e.g., the sequence of plan/draft/

means toward
the big idea

revise). Both begin with a problem focus and proceed using much the same thinking. Consider that composition (written, visual art, music, or dance) is *expressed* meaning that is first created mentally, just as in comprehension. Interestingly, comprehension is sometimes called “composed meaning.” The CPS process also parallels scientific problem solving, historical reasoning, and the creative problem solving used in the creation of arts products and aesthetic understanding (Cornett, 2011).

IS EVIDENCE BASED

Recall how Emma pressed her students for evidence with questions like “*Why do you think that?*” Central to teaching the CPS process is what John Dewey called the “grounding of belief.” Predictions, inferences, summaries, and conclusions have integrity only when they are supported with evidence, such as details from a credible text. Sense is not created without clues, cues, and supportive evidence.

REVOLVES AROUND IMPORTANT QUESTIONS

Integral to the CPS process are important questions that ratchet the process forward. Students learn to generate important questions and to expect questions to have a range of possible answers, not one right answer. Students learn to use the CPS process to arrive at big ideas by continually asking important questions (e.g., how? why? what if?). Teachers can scaffold the learning of how to generate questions by posting question stems and examples of provocative questions. Emma put hers on a window roller shade in her classroom to maximize space. See more question examples in Chapter 7.

LEADS TO BIG IDEAS

Remember that comprehension is both process (i.e., problem-solving strategies) and product. The product is made of the ideas that the reader extracts and creates through interacting with texts. The purpose of the CPS process is to help students coordinate multiple strategies to find and create big ideas using any text, be it verbal or non-verbal, print or non-print. Process when connected to content is given purpose and meaning. This happens when comprehension strategies are used as tools for understanding. A big idea focus improves comprehension of texts used during instruction, with the goal of comprehension transfer to new texts (RAND, 2002).

IS MOTIVATING

The CPS process taps into innate propensities to make sense. Making sense is highly self-motivating, especially when readers are inquiring into interests and personal questions. The exuberance of Emma’s students gives testimony to this

effect. I heard them say things like, "I can just see that camel dancing for the fun of it and that makes me so happy" and "I predict that the other animals are just jealous and won't like the show."

In sum, the CPS process makes sense because it coordinates thinking processes for solving problems. It is more comprehensive than other models, and it transcends the school context and a narrow focus on traditional print texts. The strategies of CPS are to be used as capable comprehenders use them: to derive understanding from texts. Of course, essential questions about *when* and *where* to use CPS strategies, as well as *why*, must be modeled by teachers and discussed with students in order for them to gain full use of the process. Without understandings about *when*, *where*, and *why*, CPS strategy lessons are reduced to mere academic exercises. With its big idea focus, the CPS process acknowledges that the comprehension process must yield a product—created understanding. Comprehension is the communication part of reading, listening, and viewing; text, alone, is simply a source, both "important and insufficient" (RAND, 2002, p. 11).

Big Ideas: What? and Why?

A h-ha! I have an idea!" exclaims someone who has just experienced insight. The "ah-ha" is the result of working a problem and arriving at a possible solution. The problem might be a life problem, like "My roof leaks, so I need a good roofer." Calling all the roofers in the telephone book and hiring the cheapest one is not a wise idea and is inefficient. What's more, experience shows cheap doesn't equal good. "I'll ask the neighbors about the guy who put on their roof" is a better idea; it employs a big idea about people: "They tend to behave the way they have behaved in the past." Ideas are triggered by a problem-solving stance—trying to figure something out or make sense of a situation.

Kids learn early to ask, "What's the big idea?" when someone says or does something incomprehensible. People want to understand big ideas. That is why CPS focuses on teaching students how to find and create big ideas.

BIG IDEAS DEFINED

The concept of a big idea is analogous to many other concepts, including thesis, contention, argument, proposition, claim, premise, assumption, hypothesis, postulation, supposition, theme statement, enduring understanding, generalization, and universal truth (Costa & Kallick, 2000; Edelsky, Altwerger, & Flores, 1991; Perkins, 2004; Wiggins & McTighe, 2005). Literary big ideas can be formulated by converting themes into full sentences. For example, "death" is a theme, but "Death is a natural part of life" is a big idea theme statement. These are "generalized understandings," not "the many details that led to those understandings" (Pressley, 2007, p. 397).

Big ideas are more than isolated concepts or topics; they are greater than the main idea of a paragraph, as well. Big ideas are important understandings

about people and the world. Concepts and topics like seasons, friends, community, and cycles are key to the development of big umbrella ideas. For example, after seeing the musical *Cinderella* (an arts/language arts text) at the Flat Rock Playhouse in North Carolina, students said the story was about "imagination." Coached with the question, "What about 'imagination'?" they said, "Using your imagination to escape a bad life" and "Using your imagination to give yourself hope." Additional coaching with open questions (e.g., How was hope created?) yielded these big ideas: (1) If you imagine or dream something, it gives you a goal to work for and (2) Sometimes you can live in your imagination and think about possibilities. That can make you feel happy.

In life we learn big ideas from many "texts," including life experiences and people we respect, such as our parents. "Think before you speak," "Sleep on it before deciding," and "Don't judge a book by its cover" are examples. Thinkers collect big ideas and use them to form assumptions or premises for theories and models. Major professional associations for literacy, science, social studies, math, and the arts have set out guidelines related to standards to help professionals focus on big ideas. See Ready Resource 3.6.

WHY BIG IDEAS?

We need content to "fuel comprehension and composition" (Gambrell, Malloy, & Mazzoni, 2007, p. 44). It is rare to think about nothing, even when we sleep. The fuel for thinking is, first, a natural desire to make sense (to inquire) and, second, something worthwhile to think about. That something is content. Content is made of ideas humans have categorized into disciplines such as science, social studies, literature, math, and the arts. Big ideas resist pigeonholing, however, so they often overlap: Where do you put "Life is made of cycles"? Is it science or literature? How about cycles in relationships? Hmmm—that seems to be social studies, but it is also a common big idea in literature, drama/theatre, music, and dance.

Today we are bombarded with content; it grows exponentially, as the Internet and television demonstrate daily. However, covering lots of content quickly and indiscriminately results in poor content learning (Torgesen, 2006). A curriculum that is an inch deep and a mile wide does not produce knowledgeable and thoughtful students. Nor does this kind of curriculum produce a satisfying learning experience. Long-term comprehension improvement just doesn't happen unless the focus of learning is on "critical content" (Duke, 2007; Torgesen, 2006, p. 30). Big ideas are critical content.

Students who are oriented to find and construct big ideas related to content texts have a motivational advantage over students who are geared to focus on learning for external reasons like grades (Guthrie, 2004). Big ideas have inherent interest, because they explain real life. Seeking big ideas involves problem solving and being "creatively flexible," which are also intrinsically motivating activities (pp. 386–387). Conversely, students who are urged to learn in order to perform well on tests become "procedural and anxious," which serves to remind us that *test* is a four-letter word (p. 386).

prompting
questions to
move from
concepts + topics
to
big ideas.

In summary, big ideas . . .

- Kick thinking up a notch, going beyond paragraphs to the meaning of full texts.
- Relate to students' lives, because big ideas are relevant to real-life problem solving and can be transferred to new situations.
- Prioritize the vast amount of material that makes up the world's content.
- Help teachers budget instructional time, so that the most time is spent on the most important ideas, as opposed to superficial covering of topics.
- Cut across disciplines, so interdisciplinary relationships can be explored. As a result, teaching can be integrated to economize on time (e.g., a unit on "Life is made of cycles and patterns").



snapshot revisited

In the thousands of hours I've spent observing hundreds of teachers, I have seen quite a few like Emma Corbett. She represents teachers who question convention and embrace research while maintaining personal style. Emma teaches in an integrated arts school, so she does have an advantage—she is surrounded by colleagues who are eager to experiment with hands-on, minds-on, hearts-on learning (Cornett, 2011). Did you notice how she . . .

- used charts to reinforce the poem and the CPS process visually?
- engaged students with a chant she improvised from a poem?
- showed enthusiasm and humor with smiles and comments that showed how much she enjoyed hearing the students' ideas?
- used a modern fable to give an authentic context and text for her strategy lesson?
- used motivational and engagement strategies, like the Mystery Bag?
- used explicit teaching, including labeling strategies and doing think alouds to model how to think?
- scaffolded students to success by coaching them to try strategies in pairs?
- used open questions that had a range of right answers?
- asked for evidence when students gave conclusions?
- used writing and drama as vehicles for students to continue problem solving and synthesize big ideas?
- gave options for making comprehension visible?

Emma's students seem to think comprehension means using the CPS strategies she has taught them to make sense. They refer to the chart, and they connect strategies like visualization (imaging) with the day's target strategies. The comprehension products they created (e.g., tableau) show they know how to focus on big ideas and not get distracted by trivial ones. Emma gets the "comprehension first" seal of approval.

Conclusion

This chapter described the Comprehension Problem Solving process. The CPS process is a comprehensive and authentic model of how people make sense of both verbal and non-verbal texts, print and non-print texts, including real-world texts like those found on the Internet. It organizes thinking strategies mature comprehenders use into flexible *before*, *during*, and *after* stages.

The chapter presented the CPS process as part of an inquiry-based approach that targets helping students find and construct big ideas from diverse texts. The motivational properties of inquiry-based problem solving were presented, including how inquiry is connected to life in the 21st century. When students are taught to use inquiry-based CPS, they tap innate problem-solving capacities to investigate real-life questions. That's where big ideas come in.

Comprehension is not just about process. While CPS outlines *comprehending processes*, the comprehension *product* results from intentional use of the strategies to find and create understanding of the most important ideas in any text. These are the big ideas. The section on big ideas explained what they are and why they are important in comprehension instruction.

CHAPTER

2 big ideas

The following are examples of big ideas from this chapter. Use the list to jump-start synthesis of your own priority big ideas.

1. The Comprehension Problem Solving process describes how people make sense of diverse texts in real life.
2. CPS relies on important questions to propel meaning making forward.
3. Comprehension skills are different from strategies, in that strategies focus on coordinated use of skills to solve specific problems.
4. Inquiry-based problem solving is inherently motivating and is used across disciplines and throughout life to make sense of texts.
5. Big ideas answer the question, "Comprehend what?"

a look ahead

The next chapter puts the teaching of inquiry-based CPS in the context of best practices for teaching the *task* of comprehension. Chapter 3 also further develops the comprehension task product, big ideas. The focus on big ideas and the teaching of inquiry-based problem solving top the list of nine best practices that make up the comprehension first proposal. Chapter 3 introduces all nine practices, along with two preconditions for their implementation.

response options

Responding to text shapes comprehension by further engaging problem solving to make sense. Use the following options in a group setting, when possible.

1. Create your own list of big ideas from this chapter and compare it with those of other readers. Explain reasons why the lists are different.
2. Check your understanding using the Important Questions that opened the chapter. Note questions that you would like to discuss further, and list additional questions.
3. Refine your definition of comprehension using information from this chapter. Design strategies for teaching the definition to children. Consider songs, chants, and artwork as vehicles. *Note:* You may want to review the definition from Chapter 1.
4. Evaluate your own use of the CPS process described in this chapter. Set goals for increasing your strategy use.
5. Practice using the CPS with your own reading. Start with the "before" strategies and just one or two of the "during" strategies. Continue to add strategies until you are aware of using the whole process to problem solve for meaning. Try using CPS with non-verbal texts, such as a piece of art, or alternative print texts, such as song lyrics.
6. Create a CPS chart to use with students. Consider using symbols and icons or hand signs to make the strategies more concrete. Choose one of the strategies and partner with a peer to think aloud about how to use the strategy with a text.
7. List several questions you now have about CPS, inquiry, or big ideas after reading this chapter.
- * 8. Read a classic picture book such as *Where the Wild Things Are* (Sendak) or *Millions of Cats* (Gag). List topics/themes found in the book and then take the topics to the big idea level by turning them into full-sentence statements.
9. List concepts that are puzzling to you from this chapter or questions you have. Discuss your questions with a partner or a group.
10. Create a two-minute oral argument for a target audience (e.g., PTA, school faculty) for adopting an inquiry-based approach to comprehension that uses CPS strategies to derive big ideas.

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